KELLOGG, HUBER, HANSEN, TODD & EVANS, P.L.L.C.

SUMNER SQUARE
1615 M STREET, N.W.
SUITE 400
WASHINGTON, D.C. 20036-3209

(202) 326-7900
FACSIMILE:
(202) 326-7999

MICHAEL K. KELLOGG
PETER W. HUBER
MARK C. HANSEN
K. CHRIS TODD
MARK L. EVANS
STEVEN F. BENZ
NEIL M. GORSUCH
GEOFFREY M. KLINEBERG
REID M. FIGEL
HENK BRANDS

SEAN A. LEV
EVAN T. LEO
ANTONIA M. APPS
MICHAEL J. GUZMAN
AARON M. PANNER
DAVID E. ROSS
SILVIJA A. STRIKIS
WILLIAM J. CONYNGHAM
RICHARD H. STERN, OF COUNSEL
SHANLON WU, OF COUNSEL

October 23, 2001

**VIA HAND DELIVERY** **EX PARTE**

Ms. Magalie Roman Salas
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

**Re: Ex Parte Communication in ET Docket No. 98-206; RM-9147; RM-9245; Applications of Broadwave USA et al., PDC Broadband Corporation, and Satellite Receivers, Ltd., to provide a fixed service in the 12.2-12.7 GHz Band; Requests of Broadwave USA et al. (DA 99-494), PDC Broadband Corporation (DA 00-1841), and Satellite Receivers, Ltd. (DA 00-2134) for Waiver of Part 101 Rules.**

Dear Ms. Salas:

I write on behalf of Northpoint Technology, Ltd. ("Northpoint") in response to two recent ex parte submissions by Pegasus Broadband Corporation ("Pegasus") regarding Pegasus's qualifications to provide terrestrial video and data service in the 12.2-12.7 GHz band (the "12 GHz band").[1] Nothing in Pegasus's submissions alters the fact that Pegasus did not pass the MITRE test, because Pegasus *did not take* the MITRE test. Pegasus failed to provide technology to the MITRE Corporation ("MITRE") for an independent demonstration, as required by statute, and failed to give timely public notice of its ex parte communications with decision makers at the Commission and at MITRE. In view of these failures – and because Pegasus's application is both untimely and designed to thwart competition – Pegasus is not qualified to receive the terrestrial license it seeks.

Pegasus for the most part does not dispute Northpoint's factual assertions about Pegasus's conduct. Instead, Pegasus seeks to excuse its failings by relying on a strained

[1] Ex parte letter from Tony Lin, Shaw Pittman LLP, to Magalie Roman Salas, Secretary, Federal Communications Commission (FCC filed Aug. 15, 2001) ("Pegasus Aug. 15 Ex Parte"); Ex Parte letter from Tony Lin, Shaw Pittman LLP, to Magalie Roman Salas, Secretary, Federal Communications Commission (FCC filed Sept. 27, 2001) ("Pegasus Sept. 27 Ex Parte").

interpretation of the relevant laws and policies. As discussed below, in the course of its argument, Pegasus not only gets the law wrong but also mischaracterizes MITRE's Report.

## I. Pegasus Failed to Comply With the Local TV Act

The Launching Our Communities' Access to Local Television Act of 2000 (the "Local TV Act")[2] is designed to ensure that no entity be considered for a license to provide terrestrial service in the 12 GHz band without first proving, through an independent technical demonstration, that its proposed technology is capable of operating in the band without causing harmful interference to Direct Broadcast Satellite ("DBS") service. The relevant portion of the Local TV Act reads as follows:

> SEC. 1012. PREVENTION OF INTERFERENCE TO DIRECT BROADCAST SATELLITE SERVICES.
>
> (a) TESTING FOR HARMFUL INTERFERENCE.—The Federal Communications Commission shall provide for an *independent technical demonstration of any terrestrial service technology* proposed by any entity that has filed an application to provide terrestrial service in [the 12 GHz band] to determine whether the terrestrial service technology proposed to be provided by that entity will cause harmful interference to any direct broadcast satellite service.
>
> (b) TECHNICAL DEMONSTRATION.—In order to satisfy the requirement of subsection (a) for any pending application, the Commission shall select an engineering firm or other qualified entity independent of any interested party based on a recommendation made by the Institute of Electrical and Electronics Engineers (IEEE), or a similar independent professional organization, to perform the technical demonstration or analysis. The demonstration shall be concluded within 60 days after the date of enactment of this Act and shall be subject to public notice and comment for not more than 30 days thereafter.[3]

Subsection (a) unambiguously requires the Commission to "provide for an independent technical demonstration of any terrestrial service technology proposed." In order to be qualified for a terrestrial license in the 12 GHz band, each applicant must first have its technology demonstrated. Not "described." Not "simulated." Not even "analyzed," but *demonstrated.* The very titles of subsections (a) and (b) confirm that the statute calls for *testing* of the technology through a *technical demonstration.*

Pegasus blithely asserts, without explanation, that the Local TV Act "requires *only* that an independent entity 'analyze' an applicant's 'technology.'"[4] Although Pegasus does not bother to offer any support for its reading of the Act, Pegasus has apparently seized upon the portion of subsection (b) that requires the Commission to

---

[2] Pub. L. No. 106-553, App. B., Tit. X, 114 Stat. 2762, 2762A-128 (Dec. 21, 2000).
[3] *Id.* §§ 1012(a) & (b), 114 Stat. at 2762A-141 (emphasis added).
[4] Pegasus Aug. 15 Ex Parte at 2

select a qualified independent entity "to perform the technical demonstration or analysis." But the addition of the words "or analysis" indicates, at most, that the entity that analyzes the results of the technical demonstration need not necessarily be the same entity that carries out the demonstration itself. Congress might well have been concerned that the firm best qualified to draw conclusions regarding whether the demonstration of a particular technology successfully avoided causing harmful interference to DBS might not be the firm with the best facilities for testing. Alternatively, perhaps the Commission's own technicians could operate the equipment, while the selected independent entity established whether there was any harmful interference to DBS, or vice versa. But whatever the phrase means, it cannot undo the requirement for a demonstration established in subsection (a).

In a further attempt to draw attention away from the requirement of an independent demonstration, Pegasus acts as if Northpoint has been quibbling over the definition of "technology" rather than asserting the need for a demonstration. Pegasus cites the Random House Dictionary for the proposition that "[t]he common definition of 'technology' is not restricted to hardware," as if that definition somehow excused Pegasus's failure to provide equipment for testing.[5] Northpoint has never maintained, however, that "technology" means "hardware," so knocking down that straw man does not advance Pegasus's case.[6]

Northpoint maintains that Pegasus's phantom technology – whatever it may consist of, if it exists at all – has not been through the statutorily required technical demonstration. The Random House Dictionary, which Pegasus seems to treat as authoritative, defines "demonstration" as "the act of exhibiting the operation or use of a device, machine, process, product or the like."[7] Pegasus has simply not demonstrated the operation of its technology – not to the public, not to the Commission, and certainly not to MITRE.

Indeed, even the DBS industry – whose members have been staunch opponents of Northpoint throughout these proceedings – has recognized that MITRE based its determinations entirely on Northpoint's technology.[8] Commenting on the MITRE Report, DirecTV noted the possibility that a terrestrial system could be designed using technology different from Northpoint's, but DirecTV then confirmed that Pegasus and the

---

[5] *Id.* n. 4.

[6] Indeed, in these very proceedings Northpoint has stated that its own technology "comprises not only specially designed hardware but also an array of carefully coordinated mitigation techniques that enable it to share frequencies without causing harmful interference to DBS." Comments of Northpoint Technology, Ltd., and Broadwave USA, Inc., on MITRE Corporation Report at 7, ET Docket 98-206 et al. (FCC filed May 15, 2001).

[7] Random House Unabridged Dictionary at 531 (2d ed. 1993).

[8] *See, e.g.,* Reply Comments of the Satellite Broadcasting and Communications Association on the MITRE Report, at 5, ET Docket 98-206 et al. (FCC filed May 15, 2001); Comments of DirecTV, Inc., on the MITRE Report, at 6 & 17, ET Docket 98-206 et al. (FCC filed May 15, 2001); Comments of the Satellite Broadcasting and Communications Association on the MITRE Report, at 5, ET Docket 98-206 et al. (FCC filed May 15, 2001).

other would-be applicants for terrestrial licenses in the 12 GHz band "have not offered any specifics about such a proposed system design, nor have they provided any test data or demonstration that such a system is indeed possible."[9]

In other words, Pegasus could not have passed the MITRE test because Pegasus did not take the MITRE test. Unlike Northpoint, which allowed MITRE to demonstrate its equipment and techniques extensively both in the laboratory and (more importantly) in actual field tests with real terrestrial and DBS signals, Pegasus never showed MITRE any operational system.

Pegasus submitted to MITRE only a sketchy description of a system and a few old antenna measurements. MITRE itself had the following to say about the meager information Pegasus's submitted:

> Pegasus did not provide its actual antennas to MITRE for testing, so MITRE had to rely on a limited set of previously measured *data supplied by Pegasus* in modeling the radiation patterns of the Pegasus antennas. Of the patterns supplied by Pegasus, the only ones usable in these simulations were azimuthal-plane cuts, so *our Pegasus simulations had to be confined to cases where the MVDDS antenna lies within the horizontal plane of interest* (*not* above or below it) and the elevation tilt angle is zero.[10]

As the first bit of italicized text makes clear, to the extent MITRE made any statement about Pegasus's phantom technology, that statement was based on data supplied by Pegasus based on old measurements taken under unknown conditions—hardly the "independent" evaluation of proposed technology envisioned by the Local TV Act. Furthermore, MITRE confined its treatment to the situation in which the transmitting antenna is operating *at the same height as the receiving antenna* – typically, just a few feet off the ground, where its signal will be routinely blocked by houses, trees, and other low-lying obstacles, not to mention terrain. No one would actually deploy a system in this configuration, and it would be impossible to do so on a nationwide basis even if one wanted to. MITRE initially published interference contours based on the assumption that Pegasus would be operating with the transmitter 100 meters above the horizontal plane of the receiving antenna. Apparently recognizing that the data Pegasus provided would not support that analysis, MITRE issued corrected pages limited to the case where the transmitter elevation is zero.

This limitation on MITRE's analysis has important practical implications. As Pegasus must itself concede, "[t]he actual pattern necessary to mitigate interference

---

[9] Comments of DirecTV, Inc., on the MITRE Report, at 17, ET Docket 98-206 et al. (FCC filed May 15, 2001). That the DBS industry, when commenting on the MITRE Report, never offered any technical analysis, criticism, or even discussion of Pegasus's phantom technology further confirms that the report rests on Northpoint's technology rather than Pegasus's paper submission.

[10] MITRE Report at 5-10 (emphasis added in part).

depends on the antenna height above the DBS 'plane' and will vary from site to site."[11] Because the MITRE Report provides no information whatsoever about how Pegasus's system would perform in locations higher or lower than the receiving antenna, the report can provide no assurance that Pegasus's phantom technology is capable of avoiding interference with DBS operations if deployed in any such configuration. Hence, contrary to Pegasus's claims, the MITRE Report did not "recognize," that "for purposes of interference analysis the transmitting equipment proposed by Pegasus has identical characteristics to the transmitter and antenna provided by Northpoint."[12] The MITRE report has *nothing* to say about the characteristics of Pegasus's unsupplied transmitting equipment except in the unrealistic deployment scenario where the transmitter is at the same height as the receiving antenna.

An even more fundamental problem with Pegasus's application for a license is that MITRE found the little data supplied by Pegasus to be unusable without significant enhancement and augmentation by MITRE. As MITRE explains in documents available on the Web site of the Office of Engineering and Technology, without any actual Pegasus equipment to test, MITRE had to base its analysis on analog E-plane patterns ostensibly representing previous measurements made by Pegasus of its 14-dBi large horn and 11-dBi small horn transmitting antennas.[13] The patterns showed only the 12.45-GHz principal (horizontal) polarization response of the antennas, and only in the horizontal plane. Even within that plane, each pattern contained gaps.[14] In order to generate data for use in its calculations, MITRE digitized the patterns at one-degree intervals, but the resulting data were referenced to an arbitrary level and not expressed in dBi. Indeed, MITRE had to employ a six-step process of "filling in" data – actually inventing several data series – in order to process the limited information Pegasus submitted. In MITRE's own words, MITRE generated the final pattern used in its interference analysis from the raw data submitted by Pegasus on its "11-dBi small horn" antenna, as follows:

a) converted the data to dBi.
b) filled in the "left-backlobe gap" by assuming right-left symmetry of the pattern in the affected region.
c) assumed the vertical cross-polarization component as 25 dB weaker than the measured horizontal component at every azimuth angle.
d) assumed the RHC and LHC components were each 3 dB down from the measured horizontal-polarization value at every azimuth angle.

---

[11] Letter from Richard G. Gould, Telecommunications Systems, to James W. Marshall, MITRE, in response to "Questions for the MVDDS Industry from The MITRE Corporation," at 5 (response to Question No. 12) (February 1, 2001) (included as attachment to Ex parte letter from Bruce D. Jacobs, Shaw Pittman, to Magalie R. Salas, Secretary, Federal Communications Commission, ET Docket 98-206 et al. (FCC filed April 10, 2001)).

[12] *Id.* at 2 n.3 (citing MITRE Report at 5-10, B-57).

[13] *See* http://www.fcc.gov/oet/info/mitrereport/alldata_readme.txt (documenting contents of data files underlying MITRE calculations).

[14] *Id.* According to *MITRE*, the large 14-dBi horn's pattern covered only the azimuthal range from -111 through +111 degrees, inclusive, while the small 11-dBi horn's pattern covered only the azimuthal range from -111 through +180 degrees, inclusive. *Id.*

e) assumed the 12.20- and 12.70-GHz values were identical to those [reportedly] measured at 12.45 GHz

f) Since we'll only be . . . doing horizontal-plane calculations (in which elevation angle theta is 90 degrees) for Pegasus, we filled in the rows for all other values of theta (from 0 to 180 degrees) by copying from the values [reportedly] measured for theta = 90.[15]

Given the huge amount of guesswork and manipulation involved in generating the interference contours, MITRE clearly did not "analyze[] Pegasus' technology," as Pegasus claims.[16] In fact, the resulting contours rest as much on MITRE's own arbitrary assumptions as on Pegasus's data.

In the absence of the statutorily required demonstration of the technology Pegasus claims to possess, Pegasus is not qualified for a terrestrial license in the 12 GHz band. Even if Pegasus were correct that an independent "analysis" of its technology could, in principle, fulfill the requirements of the Local TV Act, Pegasus would still not be qualified for a license, since no meaningful analysis of Pegasus's proposed technology was possible given the scant information Pegasus provided.

## II. Pegasus Violated the Commission's Ex Parte Policies

The Commission's ex parte policies are designed "to enhance the ability of the public to communicate with the Commission in a manner that comports with fundamental fairness."[17] Pegasus does not deny that it willfully tried to keep from public view not only its communications with MITRE but also its negotiations with Commission officials regarding the acceptance of a license by the Commission to Pegasus's phantom intellectual property. Instead, Pegasus argues that the Commission's ex parte rules are not applicable either to the MITRE study or Pegasus's campaign to get the Commission to take a license. Although Pegasus attempted to link the two issues by arguing that the Commission should not release the MITRE Report without taking a license from Pegasus, we address these two types of communication separately.

### A. Confidential Submissions to MITRE

At the January 24, 2001, organizational meeting for the MITRE study, the interested parties agreed to file notification of ex parte communications with MITRE in ET Docket 98-206. In a letter dated March 23, 2001, the Commission's Office of Engineering and Technology issued a "reminder to ensure that the interested parties and their counsel continue to all follow the same procedures" discussed at the January 24

---

[15] *Id.*

[16] Pegasus Aug. 15 Ex Parte at 2.

[17] Report and Order, ¶ 4, Amendment of 47 C.F.R. § 1.1200 et seq. Concerning Ex Parte Presentations in Commission Proceedings, GC Docket No. 95-21, 12 FCC Rcd 7348 (1997) ("*Ex Parte Order*").

meeting.[18] The March 23 letter not only reminded interested parties to file their ex parte communications with MITRE in ET Docket 98-206 but also confirmed that the filings in that docket would be the only log of communications between MITRE and interested parties.[19]

In a remarkable attempt to rewrite this history, Pegasus now maintains that no filing obligations were undertaken at the January 24 meeting, and that the March 23 letter represented the first attempt by Commission officials to ensure that a public record of communications with MITRE be made. Pegasus's version of events cannot be squared with the text of the March 23 letter, which, as noted above, expressly served as a reminder of prior arrangements rather than an attempt to make new ones.

Pegasus does not deny that it kept its February and March communications with MITRE secret until prodded by the Commission to reveal them in April – by which time MITRE's report was all but complete. Pegasus's most recent excuse for its clandestine communications is that "the Local TV Act contemplates that the opportunity for public comment would come after the independent entity conducting the analysis had concluded its report and submitted it for the record."[20] Pegasus's reliance on the Local TV Act is misplaced, however. The Act creates a period for public comment *on the MITRE Report,* not on the misleading submissions from Pegasus that might have influenced the report. By keeping its communications secret, in violation of the Commission's announced policy, Pegasus prevented Northpoint and other parties from commenting on Pegasus's submissions so as to aid MITRE's analysis. To take just one example, MITRE credits Pegasus with the idea of increasing receiver gain by using larger receiving antennas. Yet Northpoint had documented that idea in a Commission filing at least three years earlier.[21] If Pegasus had obeyed the Commission's unambiguous policy of making submissions to MITRE available for public inspection, Northpoint could have set the record straight before MITRE gave Pegasus credit for stealing Northpoint's ideas.

Regardless of whether the formal ex parte rules of 47 C.F.R. § 1.1200 et seq. apply, Pegasus's repeated and deliberate flaunting of Commission policies designed to safeguard the objectivity and fairness of the MITRE study provides sufficient grounds to find Pegasus unfit for a license.

### B. Secret Licensing Negotiations

Pegasus's assertion that the Commission's ex parte rules do not apply to Pegasus's campaign to get the Commission to accept a license for its phantom technology can hardly be taken seriously. All the pending applications for terrestrial licenses in the

---

[18] Letter from Rebecca Dorch, Office of Engineering and Technology, to Antoinette Cook Bush et al., ET Docket 98-206, at 1 (FCC filed Mar. 23, 2001).
[19] *Id.* at 2.
[20] Pegasus Aug. 15 Ex Parte at 3.
[21] *See, e.g.*, Reply Comments of Northpoint Technology, Technical Annex at 23, RM 9245 (FCC filed May 5, 1998).

12 GHz band, and ET Docket 98-206 itself, have been designated "permit-but-disclose" for purposes of the Commission's ex parte rules. Those rules define "presentation" as "[a] communication directed to the merits or outcome of a proceeding."[22] The existence and capabilities of Pegasus's phantom technology are questions central to the merits of the pending applications for terrestrial licenses in the 12 GHz band as well as the merits of ET Docket 98-206. In the course of advocating that the Commission take a license to use its phantom technology, Pegasus must have made some statement regarding the existence of the phantom technology and its capabilities. Therefore, Pegasus should have filed notification of its ex parte communications on these topics, pursuant to 47 C.F.R. § 1.1206.

Pegasus's lame excuse that, in the course of discussing a license with Pegasus, the General Counsel's office "never invoked" the Commission's ex parte rules, is irrelvant. It is not up to the General Counsel's office to "invoke" the applicable rules. Instead, as the Commission has long recognized, "[t]he duty to ensure the adequacy of notifications rests with the person making ex parte presentations."[23]

Similarly, Pegasus is simply mistaken when it says that "Northpoint's conduct in negotiating its own license agreement belies its contention that the negotiations had to be an open process."[24] Pegasus suggests that Northpoint kept its license negotiations secret until after they had been concluded on February 6, 2001. In fact, just the opposite is true. In two separate ex parte filings on February 1 and February 2, 2001, Northpoint placed in the public record its proposed license agreements and a record of e-mail correspondence between Northpoint and Commission officials regarding the terms of the license.[25] Pegasus, by contrast, has yet to provide any public record of its discussions with Commission officials regarding Pegasus's proposed license.

Pegasus's secret communications with the Commission – which have still not been released – handicapped Northpoint and other interested parties in presenting their positions on the vitally important issue of whether Pegasus in fact has any terrestrial service technology of its own. Interested parties were also hamstrung in responding to the delay in the release of the MITRE Report attributable to Pegasus's secret lobbying efforts.

In view of the scant respect Pegasus has paid to the Commission's ex parte rules and policies, and the principles of fair play that underlie them, the Commission should dismiss Pegasus's pending license application.

---

[22] 47 C.F.R. § 1.1202(a).
[23] *Ex Parte Order* ¶ 47.
[24] Pegasus Aug. 15 Ex Parte at 4.
[25] *See* Ex Parte Letter from J.C. Rozendaal to Magalie Roman Salas, ET Docket 98-206 et al. (FCC filed Feb. 1, 2001); Ex Parte Letter from Antoinette Cook Bush to Magalie Roman Salas, ET Docket 98-206 et al. (FCC filed Feb. 2, 2001).

## III. Pegasus's Application Should Be Dismissed as Untimely and Designed to Thwart Competition

Beyond Pegasus's failure to comply with the statutory demonstration requirement contained in the Local TV Act and Pegasus's flagrant disregard of the Commission's ex parte policies, there are at least two further good reasons for the Commission to dismiss Pegasus's license application: Pegasus missed the relevant filing window and its application is designed to thwart the emergence of effective terrestrial competition to DBS.

Northpoint has made these points in previous submissions to the Commission and will not repeat all the details here.[26] In brief, the terrestrial and satellite aspects of these proceedings have been intertwined legally, procedurally, and practically since their inception. Anyone wanting to share the 12 GHz band with DBS and the NGSO FSS operators should have filed by January 8, 1999 – in time to stake a claim together with the NGSO FSS operators, who otherwise would have planned their services in such a manner as to leave no room left for terrestrial users. Only Northpoint filed by this critical cutoff deadline. If Northpoint had not filed on time and participated in proceedings before the International Bureau, there would be no terrestrial licenses in the 12 GHz band to issue at all. Pegasus did not submit an application until April of 2000, more than a year after this crucial deadline had passed. That alone is a sufficient reason to dismiss its application.

Perhaps even more troubling than its tardiness is the mounting evidence that Pegasus's application was filed with an anticompetitive motive. Pegasus is the largest independent distributor of DirecTV's DBS service, so Pegasus has every incentive to protect DBS from competition. Right up until it filed its application, Pegasus's affiliates argued that adding terrestrial services to the 12 GHz band would cause "ruinous interference and serious disruption of services to consumers of both DBS and NGSO FSS services."[27] Then, *after* filing its application, Pegasus admitted that it had no "specific intent" to provide terrestrial service.[28] Moreover, Pegasus's recent suggestion that the Commission should require Northpoint to make its technology available on a reasonable, nondiscriminatory basis, represents a tacit admission that Pegasus lacks sufficient technology of its own to provide terrestrial service in the 12 GHz band.[29]

---

[26] *See, e.g.*, Comments of Northpoint Technology Ltd. and Broadwave USA, Inc., at 17-18, ET Docket 98-206 (FCC filed Mar. 12, 2001); Motion to Dismiss by Northpoint Technology, Ltd. and Broadwave USA, Inc., at 7-16, *Application of PDC Broadband Corporation to Provide Terrestrial Services in the 12.2-12.7 GHz Band* (FCC filed May 23, 2000).

[27] Letter to Chairman William E. Kennard from Satellite Broadcasting and Communications Ass'n at 1 (Feb. 28, 2000) (included as Attachment 1 to Northpoint's May 23, 2000, Motion to Dismiss Pegasus's application).

[28] *Communications Daily*, May 9, 2000, at 11.

[29] Pegasus Sept. 27 Ex Parte, Attachment at 8. Northpoint has addressed Pegasus's suggestion at more length in a separate ex parte submission to the Commission's General Counsel. *See* Ex parte letter from Michael K. Kellogg to Jane E. Mago, ET Docket 98-206 et al. (FCC filed Oct. 12, 2001).

All of these developments point to the conclusion that Pegasus's application is intended to block deployment of Northpoint's innovative technology, thus protecting the DBS industry from new competition. Rather than reward Pegasus's anticompetitive behavior, the Commission should dismiss Pegasus's application forthwith.

This letter will be filed electronically in ET Docket 98-206, RM-9147, and RM-9245. In addition, twelve copies of this letter will be filed in paper form – two for inclusion in each of the above-referenced application files. Please contact me if you have any questions.

Yours sincerely,

J. C. Rozendaal
*Counsel for Northpoint Technology, Ltd.*

## CERTIFICATE OF SERVICE

I, Shannon Thrash, hereby certify that on this 23rd day of October, 2001, copies of the foregoing, were served by hand delivery* and/or first class United States mail, postage prepaid, on the following:

Magalie Roman Salas*
Secretary
Federal Communications Commission
445 12th Street, SW
Room TW-B204
Washington, D.C. 20554

Bruce Franca, Acting Chief
Thomas Derenge
Lauren Maxim Van Wazer
Saj Durrani
Ira Keltz
Julius Knapp
Geraldine Matise
Gary Thayer
Office of Engineering & Technology*
Federal Communications Commission
445 12th Street, SW
Washington, D.C. 20554

Donald Abelson, Chief
Jennifer Gilsenan
Rosalee Chiara
Paul Locke
International Bureau*
Federal Communications Commission
445 12th Street, SW
Washington, D.C. 20554

Thomas J. Sugrue, Chief
Shellie Blakeney
Jennifer Burton
Michael Pollack
Tom Stanley
Wireless Telecommunications Bureau*
Federal Communications Commission
445 12th Street, SW
Washington, D.C. 20554

Peter Tenhula, Sr. Legal Advisor*
Office of Chairman Michael Powell
Federal Communications Commission
445 12th Street, SW
Washington, D.C. 20554

Bryan Tramont, Sr. Legal Advisor*
Office of Commissioner Kathleen Abernathy
Federal Communications Commission
445 12th Street, SW
Washington, D.C. 20554

Paul Margie, Sr. Legal Advisor*
Office of Commissioner Michael Copps
Federal Communications Commission
445 12th Street, SW
Washington, D.C. 20554

Monica Desai, Legal Advisor*
Office of Commissioner Kevin Martin
Federal Communications Commission
445 12th Street, SW
Washington, D.C. 20554

Antoinette Cook Bush
Northpoint Technology, Ltd.
444 North Capitol Street, N.W.
Suite 645
Washington, D.C. 20001

Tony Lin
David C. Oxenford
Shaw Pittman
2300 N. Street, NW
Washington, D.C. 20037

Nathaniel J. Hardy
Irwin, Campbell & Tannewald, PC
1730 Rhode Island Avenue, NW
Suite 200
Washington, D.C. 20036

James H. Barker, III
Latham & Watkins
1001 Pennsylvania Ave., NW
Suite 1300
Washington, D.C. 20004-2505

Pantelis Michalopoulos
Steptoe & Johnson LLP
1330 Connecticut Avenue, NW
Washington, D.C. 20036

Nancy K. Spooner
Swidler Berlin Shereff Friedman, LLP
The Washington Harbor
3000 K Street N.W., Suite 300
Washington, D.C. 20007-5116

Shannon Thrash